



# PLUS POWER TECH CO., LTD.

## Material Safety Data Sheet

Data Sheet No: VRLA AGM Issue 11

Date Issued: January 1th, 2023

### 1 Identification of the substance

Product name: Sealed Lead Acid Battery

Trade name: Lead acid battery

Manufacturers Name: **PLUS POWER TECH CO., LTD.**

Manufacturers Address: **Area 1, Plus Power Industrial Park, Baoming Road 4021, Baoan District, Shenzhen, China**

Email: [tech@pluspowercn.com](mailto:tech@pluspowercn.com)

Tel: +86-755-66897770

Fax: +86-755-61624317

Responsible persons: QA Representative, Managing Director

### 2 Composition / Ingredient Data

Hazardous Components Chemical Identity	CAS Number	OSHA PEL	ACGIH TLV	Percent By Weight	EC Number	Average
Lead	7439-92-1	50 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>	45-55%	231-100-4	50%
Sulfuric Acid	7664-93-9	100 µg/m <sup>3</sup>	1.00 mg/m <sup>3</sup>	19-25%	231-639-5	22%
Lead Oxide	1309-60-0	50 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>	19-23%	215-174-5	21%

	Risk Phrases	Safety Phrases
Sulphuric Acid	R61,62,20/22,33	S1/2,S26,S30,S45
Lead Oxide	R35	None

### 3 Hazards Identification

Odour: Not applicable

Appearance: Article as described above

Weight High Density/ Good lifting technique required

**Hazards refer to internal component, i.e. lead and sulphuric acid**

Contact with eyes: Causes irritation

Contact with skin: May cause dermatitis

Inhalation: May cause irritation

Ingestion: Can cause damage to the kidneys

#### 4 First Aid Measures

Contact with skin: Remove contaminated clothing immediately and drench affected skin with plenty of water, then wash with soap and water.

Contact with eyes: If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes.

#### **Seek immediate medical attention.**

Ingestion: Do not induce vomiting.

#### **Seek immediate medical attention.**

Inhalation: Remove patient to fresh air.  
Seek medical attention if irritation persists.

#### 5 Fire-Fighting Measures

Auto-ignition point (Hydrogen) 580° C at 760 mm Hg  
Wear positive-pressure breathing apparatus  
In case of fire use foam, carbon dioxide or dry agent (S43)  
Flash point Hydrogen 259° C  
Flammable Limits in air, Lower 4.1%  
% by 3/4 vol. (Hydrogen)

#### **Fire/explosion**

Hydrogen and oxygen gases are produced in the cells during normal battery operation (hydrogen is flammable and oxygen supports combustion).

#### 6 Accidental Release Measures

Immediate Actions: Shut off all ignition sources  
Clean Up Actions: Neutralise with soda ash  
Place in appropriate container  
Ventilate area  
Do not empty into drains (S29)

#### 7 Handling and Storage

Under normal conditions of battery use, internal components will not present a health hazard

Handling: Keep away from heat and sources of ignition  
Wash hands thoroughly after use  
Avoid sparks  
Avoid contact with metal jewellery and watches etc.  
**Do Not Remove Vent Caps**  
Do not double stack industrial batteries, it may cause damage.

Storage: Keep in cool and dry & Protect from heat.  
Store lead acid batteries with adequate ventilation.  
Room ventilation is required for batteries utilised for standby power generation.  
**Never re-charge batteries in an unventilated, enclosed space.**

## **8 Exposure Controls / Personal Protection**

Personal protection: Wear safety shoes with toe protector.  
Where internal components are liberated use rubber or neoprene boots.  
Wear goggles/safety glasses giving complete eye protection.  
Respiratory protection may be required under exceptional circumstances when excessive air contamination exists.  
Wear PVC mitts, gloves or gauntlets.

Exposure Limits: Lead OES / LTEL - ppm 0.15 mg/m<sup>3</sup>  
Lead Dioxide OES / LTEL - ppm 0.15 mg/m<sup>3</sup>

## **9 Physical and Chemical Properties**

Odour: Not applicable.  
Appearance: Sealed Valve Regulated lead Acid Battery  
State under normal temp: Solid  
Flash point (Hydrogen):259° C

### **Internal components**

pH - (Sulphuric acid): 1.3 .  
Boiling point: Battery Electrolyte 110° C, Lead 1755° C  
(at 760 mm/Hg)  
Melting point: Lead 327.4° C  
Vapour pressure: 11.7  
Vapour density: Battery Electrolyte 3.4, (air =1)  
Specific gravity: Battery Electrolyte 1.3 g/cm<sup>3</sup>. (water =1)  
Auto-ignition point: 580° deg C at 760 mm/Hg.  
Water solubility: Battery Electrolyte is 100% soluble in water

## **10 Stability and Reactivity**

VRLA Batteries are considered stable at normal conditions.  
Keep away from heat and sources of ignition.  
Incompatible with reducing agents. Incompatible with organic agents.  
Decomposition products may include hydrogen.  
Decomposition products may include sulphur oxides.

## **11 Toxicological Information**

Danger of cumulative effects. (R33)  
May cause severe irritation.  
May cause gastro-intestinal disturbances.  
Can cause damage to the mucous membranes.

## **12 Ecological Information**

Ecotoxicology - no information available

## **13 Disposal Considerations**

Classification: This material and/or its container must be disposed of as hazardous waste.

Disposal considerations: Do not discharge into drains or the environment, dispose to an authorised waste collection point.

## **14 Transport Information**

Plus Power battery is not regulated for transportation because it has been tested and passed the tests specified in 49 CFR 173.159(d), IATA Packing Instruction A67, and IMDG Special Provision 238.

We hereby certify that the PLUS POWER TECH CO., LTD. range of Maintenance Free Rechargeable Sealed Lead Acid batteries conform to the UN2800 classification as " Batteries, Non- Spillable, and electric storage" as a result of passing the Vibration and Pressure Differential Test described in DOT [ 49 CFR 173.159(d) and IATA/ICAO [Special Provision A67 ].

PLUS POWER TECH CO., LTD. having met the related conditions are EXEMPT from hazardous goods regulations for the purpose of transportation by DOT,IMDG and IATA/ICAO, and therefore are unrestricted for transportation by any means.

## **15 Regulatory information**

Classification and labeling. Not classified as hazardous for supply

## **16 Other Information**

Under normal conditions of battery use, internal components will not present a health hazard. The information contained in this Safety Data Sheet is provided for battery electrolyte (acid) and lead, for exposure that may occur during battery production or container breakage or under extreme heat conditions such as fire.

Tested as per IMDG Amendment. 35-10, special provision 238 "a" and "b", Comply.

This Safety Data Sheet and the information therein does not constitute the user's own assessment of work place risk as required by other Health & Safety legislation.